

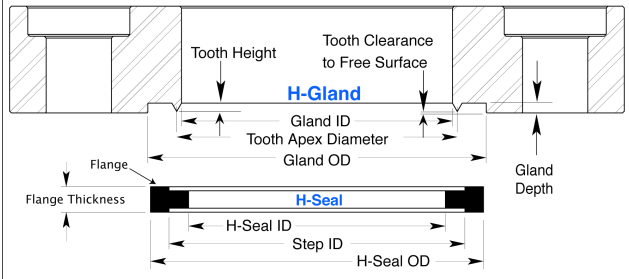
H-Seal + O-Ring Dimensions - 2018 / 2019 / Inches -

H-Seal OD, Step ID and ID Basic Dimensions				Zero Clearance			Gap H-Seals			Interchangeable Elastomeric O-Ring Dimensions											
<h3 style="margin: 0;">North American Dimensions (inches)</h3>				<p>Zero Clearance H-Seals allow the mating glands to bottom against each other. This means finished-assembly stack-up dimensions are the same whether an H-Seal or an elastomeric o-ring is used in the gland. Check the Assembly & Compression columns to the right for tooth penetration values.</p>			<p>Gap H-Seals provide a positive compression stop for the mating glands. The glands bottom against the H-Seal and leave a gap between parts that can be used for leak checking. Note the Assembly & Compression columns to the right for gap dimensions.</p>														
				This is an abbreviated spreadsheet showing only H-Seal dimensions. Call or email Bostec for the full spreadsheet showing Assembly & Compression values for H-Seals and H-Glands. We will also send you machining guidelines.																	
OD ±.001	Step ID ±.001	H-Seal ID ±.001	Flange Cross Section Width	Zero Clearance H-Seal Part Number			Gap H-Seal Part Number			Parker Hannifin Part Number		O-Ring Face Seal Gland Dimensions									
				H-Seal Flange Thickness +.00 / -.001	Sealing surface: recess depth per side +.001 / -.00	Web Thickness ±.001	H-Seal Flange Thickness +.00 / -.001	Sealing surface: recess depth per side +.001 / -.00	Web Thickness ±.001	ID	OD	Cross Section	ID (Mean ID of O-Ring, Ref)	ID max (ID min + 1% of Mean ID)	Gland (trough) Width for Vacuum & Gasses	Gland (trough) Depth - from Parker Hannifin	OD min (calculated from tolerance range)	OD max (calculated from tolerance range)			
0.3137	0.1850	0.0695	0.064	HZ-007	0.054	0.012	0.030	H-007	0.068	0.012	0.044	2-007	0.145	0.285	0.070	0.145	0.146	0.087	.050 - .054	0.318	0.319
0.3449	0.2160	0.1007	0.064	HZ-008	0.054	0.012	0.030	H-008	0.068	0.012	0.044	2-008	0.176	0.316	0.070	0.176	0.178	0.087	.050 - .054	0.349	0.351
0.3770	0.2480	0.1328	0.065	HZ-009	0.054	0.012	0.030	H-009	0.068	0.012	0.044	2-009	0.208	0.348	0.070	0.208	0.210	0.087	.050 - .054	0.381	0.383
0.4082	0.2790	0.1640	0.065	HZ-010	0.054	0.012	0.030	H-010	0.068	0.012	0.044	2-010	0.239	0.379	0.070	0.239	0.241	0.087	.050 - .054	0.412	0.414
0.4705	0.3410	0.2263	0.065	HZ-011	0.054	0.012	0.030	H-011	0.068	0.012	0.044	2-011	0.301	0.441	0.070	0.301	0.304	0.087	.050 - .054	0.474	0.477
0.5338	0.4040	0.2896	0.065	HZ-012	0.054	0.012	0.030	H-012	0.068	0.012	0.044	2-012	0.364	0.504	0.070	0.364	0.368	0.087	.050 - .054	0.537	0.541
0.5911	0.4660	0.3265	0.063	HZ-013	0.054	0.012	0.030	H-013	0.068	0.012	0.044	2-013	0.426	0.566	0.070	0.426	0.430	0.087	.050 - .054	0.599	0.603
0.6544	0.5290	0.3898	0.063	HZ-014	0.054	0.012	0.030	H-014	0.068	0.012	0.044	2-014	0.489	0.629	0.070	0.489	0.494	0.087	.050 - .054	0.662	0.667
0.7168	0.5910	0.4522	0.063	HZ-015	0.054	0.012	0.030	H-015	0.068	0.012	0.044	2-015	0.551	0.691	0.070	0.551	0.557	0.087	.050 - .054	0.724	0.730
0.7801	0.6540	0.5155	0.063	HZ-016	0.054	0.012	0.030	H-016	0.068	0.012	0.044	2-016	0.614	0.754	0.070	0.614	0.620	0.087	.050 - .054	0.787	0.793
0.8424	0.7160	0.5778	0.063	HZ-017	0.054	0.012	0.030	H-017	0.068	0.012	0.044	2-017	0.676	0.816	0.070	0.676	0.683	0.087	.050 - .054	0.849	0.856
0.9057	0.7790	0.6411	0.063	HZ-018	0.054	0.012	0.030	H-018	0.068	0.012	0.044	2-018	0.739	0.879	0.070	0.739	0.746	0.087	.050 - .054	0.912	0.919
0.9680	0.8410	0.7034	0.064	HZ-019	0.054	0.012	0.030	H-019	0.068	0.012	0.044	2-019	0.801	0.941	0.070	0.801	0.809	0.087	.050 - .054	0.974	0.982
1.0263	0.9040	0.7413	0.061	HZ-020	0.054	0.012	0.030	H-020	0.068	0.012	0.044	2-020	0.864	1.004	0.070	0.864	0.873	0.087	.050 - .054	1.037	1.046
1.0886	0.9660	0.8036	0.061	HZ-021	0.054	0.012	0.030	H-021	0.068	0.012	0.044	2-021	0.926	1.066	0.070	0.926	0.935	0.087	.050 - .054	1.099	1.108
1.1519	1.0290	0.8669	0.061	HZ-022	0.054	0.012	0.030	H-022	0.068	0.012	0.044	2-022	0.989	1.129	0.070	0.989	0.999	0.087	.050 - .054	1.162	1.172
1.2143	1.0910	0.9293	0.062	HZ-023	0.054	0.012	0.030	H-023	0.068	0.012	0.044	2-023	1.051	1.191	0.070	1.051	1.062	0.087	.050 - .054	1.224	1.235
1.2776	1.1540	0.9926	0.062	HZ-024	0.054	0.012	0.030	H-024	0.068	0.012	0.044	2-024	1.114	1.254	0.070	1.114	1.125	0.087	.050 - .054	1.287	1.298
1.3399	1.2160	1.0549	0.062	HZ-025	0.054	0.012	0.030	H-025	0.068	0.012	0.044	2-025	1.176	1.316	0.070	1.176	1.188	0.087	.050 - .054	1.349	1.361
1.4032	1.2790	1.1182	0.062	HZ-026	0.054	0.012	0.030	H-026	0.068	0.012	0.044	2-026	1.239	1.379	0.070	1.239	1.251	0.087	.050 - .054	1.412	1.424
1.4655	1.3410	1.1805	0.062	HZ-027	0.054	0.012	0.030	H-027	0.068	0.012	0.044	2-027	1.301	1.441	0.070	1.301	1.314	0.087	.050 - .054	1.474	1.487
1.5288	1.4040	1.2438	0.062	HZ-028	0.054	0.012	0.030	H-028	0.068	0.012	0.044	2-028	1.364	1.504	0.070	1.364	1.378	0.087	.050 - .054	1.537	1.551
1.6544	1.5290	1.3694	0.063	HZ-029	0.054	0.012	0.030	H-029	0.068	0.012	0.044	2-029	1.489	1.629	0.070	1.489	1.504	0.087	.050 - .054	1.662	1.677
1.7801	1.6540	1.4951	0.063	HZ-030	0.054	0.012	0.030	H-030	0.068	0.012	0.044	2-030	1.614	1.754	0.070	1.614	1.630	0.087	.050 - .054	1.787	1.803
1.9057	1.7790	1.6207	0.063	HZ-031	0.054	0.012	0.030	H-031	0.068	0.012	0.044	2-031	1.739	1.879	0.070	1.739	1.756	0.087	.050 - .054	1.912	1.929
2.0313	1.9040	1.7463	0.064	HZ-032	0.054	0.012	0.030	H-032	0.068	0.012	0.044	2-032	1.864	2.004	0.070	1.864	1.883	0.087	.050 - .054	2.037	2.056
2.1569	2.0290	1.8719	0.064	HZ-033	0.054	0.012	0.030	H-033	0.068	0.012	0.044	2-033	1.989	2.129	0.070	1.989	2.009	0.087	.050 - .054	2.162	2.182
2.2826	2.1540	1.9976	0.064	HZ-034	0.054	0.012	0.030	H-034	0.068	0.012	0.044	2-034	2.114	2.254	0.070	2.114	2.135	0.087	.050 - .054	2.287	2.308
2.4082	2.2790	2.1232	0.065	HZ-035	0.054	0.012	0.030	H-035	0.068	0.012	0.044	2-035	2.239	2.379	0.070	2.239	2.261	0.087	.050 - .054	2.412	2.434
2.5338	2.4040	2.2488	0.065	HZ-036	0.054	0.012	0.030	H-036	0.068	0.012	0.044	2-036	2.364	2.504	0.070	2.364	2.388	0.087	.050 - .054	2.537	2.561
2.6594	2.5290	2.3744	0.065	HZ-037	0.054	0.012	0.030	H-037	0.068	0.012	0.044	2-037	2.489	2.629	0.070	2.489	2.514	0.087	.050 - .054	2.662	2.687
2.7851	2.6540	2.5001	0.066	HZ-038	0.054	0.012	0.030	H-038	0.068	0.012	0.044	2-038	2.614	2.754	0.070	2.614	2.640	0.087	.050 - .054	2.787	2.813
2.9107	2.7790	2.6257	0.066	HZ-039	0.054	0.012	0.030	H-039	0.068	0.012	0.044	2-039	2.739	2.879	0.070	2.739	2.766	0.087	.050 - .054	2.912	2.939
3.0363	2.9040	2.7513	0.066	HZ-040	0.054	0.012	0.030	H-040	0.068	0.012	0.044	2-040	2.864	3.004	0.070	2.864	2.893	0.087	.050 - .054	3.037	3.066
3.1619	3.0290	2.8769	0.066	HZ-041	0.054	0.012	0.030	H-041	0.068	0.012	0.044	2-041	2.989	3.129	0.070	2.989	3.019	0.087	.050 - .054	3.162	3.192
3.4132	3.2790	3.1282	0.067	HZ-041	0.054	0.012	0.030	H-042	0.068	0.012	0.044	2-041	3.239	3.379	0.070	3.239	3.271	0.087	.050 - .054	3.412	3.444
0.4159	0.2190	0.0190	0.098	HZ-106	0.076	0.017	0.042	H-106	0.092	0.017	0.058	2-106	0.174	0.380	0.103	0.174	0.176	0.123	.074-.080	0.420	0.422
0.4480	0.2510	0.0511	0.099	HZ-107	0.076	0.017	0.042	H-107	0.092	0.017	0.058	2-107	0.206	0.412	0.103	0.206	0.208	0.123	.074-.080	0.452	0.454
0.4792	0.2820	0.0823	0.099	HZ-108	0.076	0.017	0.042	H-108	0.092	0.017	0.058	2-108	0.237	0.443	0.103	0.237	0.239	0.123	.074-.080	0.483	0.485
0.5415	0.3440	0.1446	0.099	HZ-109	0.076	0.017	0.042	H-109	0.092	0.017	0.058	2-109	0.299	0.505	0.103	0.299	0.302	0.123	.074-.080	0.545	0.548
0.6048	0.4070	0.2079	0.099	HZ-110	0.076	0.017	0.042	H-110	0.092	0.017	0.058	2-110	0.362	0.568	0.103	0.362	0.366	0.123	.074-.080	0.608	0.612
0.6621	0.4690	0.2702	0.097	HZ-111	0.076	0.017	0.042	H-111	0.092	0.017	0.058	2-111	0.424	0.630	0.103	0.424	0.428	0.123	.074-.080	0.670	0.674
0.7254	0.5320	0.3335	0.097	HZ-112	0.076	0.017	0.042	H-112	0.092	0.017	0.058	2-112	0.487	0.693	0.103	0.487	0.492	0.123	.074-.080	0.733	0.738

H-Seal + O-Ring Dimensions - 2018 / 2019 / Inches -

H-Seal OD, Step ID and ID Basic Dimensions				Zero Clearance			Gap H-Seals			Interchangeable Elastomeric O-Ring Dimensions											
North American Dimensions (inches)				Zero Clearance H-Seals allow the mating glands to bottom against each other. This means finished-assembly stack-up dimensions are the same whether an H-Seal or an elastomeric o-ring is used in the gland. Check the Assembly & Compression columns to the right for tooth penetration values.			Gap H-Seals provide a positive compression stop for the mating glands. The glands bottom against the H-Seal and leave a gap between parts that can be used for leak checking. Note the Assembly & Compression columns to the right for gap dimensions.														
										O-Ring											
O-Ring Face Seal Gland Dimensions																					
OD ±.001	Step ID ±.001	H-Seal ID ±.001	Flange Cross Section Width	Zero Clearance H-Seal Part Number	H-Seal Flange Thickness +00 / -.001	Sealing surface: recess depth per side +.001 / -.00	Web Thickness ±.001	Gap H-Seal Part Number	H-Seal Flange Thickness +00 / -.001	Sealing surface: recess depth per side +.001 / -.00	Web Thickness ±.001	Parker Hannifin Part Number	ID	OD	Cross Section	ID (Mean ID of O-Ring, Ref)	ID max (ID min + 1% of Mean ID)	Gland (trough) Width for Vacuum & Gasses	Gland (trough) Depth - from Parker Hannifin	OD min (calculated from tolerance range)	OD max (calculated from tolerance range)
0.7877	0.5940	0.3958	0.097	HZ-113	0.076	0.017	0.042	H-113	0.092	0.017	0.058	2-113	0.549	0.755	0.103	0.549	0.554	0.123	.074-.080	0.795	0.800
0.8511	0.6570	0.4592	0.097	HZ-114	0.076	0.017	0.042	H-114	0.092	0.017	0.058	2-114	0.612	0.818	0.103	0.612	0.618	0.123	.074-.080	0.858	0.864
0.9134	0.7190	0.5215	0.097	HZ-115	0.076	0.017	0.042	H-115	0.092	0.017	0.058	2-115	0.674	0.880	0.103	0.674	0.681	0.123	.074-.080	0.920	0.927
0.9767	0.7820	0.5848	0.097	HZ-116	0.076	0.017	0.042	H-116	0.092	0.017	0.058	2-116	0.737	0.943	0.103	0.737	0.744	0.123	.074-.080	0.983	0.990
1.0390	0.8440	0.6471	0.097	HZ-117	0.076	0.017	0.042	H-117	0.092	0.017	0.058	2-117	0.799	1.005	0.103	0.799	0.807	0.123	.074-.080	1.045	1.053
1.0923	0.9070	0.7104	0.093	HZ-118	0.076	0.017	0.042	H-118	0.092	0.017	0.058	2-118	0.862	1.068	0.103	0.862	0.871	0.123	.074-.080	1.108	1.117
1.1546	0.9690	0.7727	0.093	HZ-119	0.076	0.017	0.042	H-119	0.092	0.017	0.058	2-119	0.924	1.130	0.103	0.924	0.933	0.123	.074-.080	1.170	1.179
1.2179	1.0320	0.8360	0.093	HZ-120	0.076	0.017	0.042	H-120	0.092	0.017	0.058	2-120	0.987	1.193	0.103	0.987	0.997	0.123	.074-.080	1.233	1.243
1.2802	1.0940	0.8983	0.093	HZ-121	0.076	0.017	0.042	H-121	0.092	0.017	0.058	2-121	1.049	1.255	0.103	1.049	1.059	0.123	.074-.080	1.295	1.305
1.3436	1.1570	0.9617	0.093	HZ-122	0.076	0.017	0.042	H-122	0.092	0.017	0.058	2-122	1.112	1.318	0.103	1.112	1.123	0.123	.074-.080	1.358	1.369
1.4059	1.2190	1.0240	0.093	HZ-123	0.076	0.017	0.042	H-123	0.092	0.017	0.058	2-123	1.174	1.380	0.103	1.174	1.186	0.123	.074-.080	1.420	1.432
1.4692	1.2820	1.0873	0.094	HZ-124	0.076	0.017	0.042	H-124	0.092	0.017	0.058	2-124	1.237	1.443	0.103	1.237	1.249	0.123	.074-.080	1.483	1.495
1.5315	1.3440	1.1496	0.094	HZ-125	0.076	0.017	0.042	H-125	0.092	0.017	0.058	2-125	1.299	1.505	0.103	1.299	1.312	0.123	.074-.080	1.545	1.558
1.5948	1.4070	1.2129	0.094	HZ-126	0.076	0.017	0.042	H-126	0.092	0.017	0.058	2-126	1.362	1.568	0.103	1.362	1.376	0.123	.074-.080	1.608	1.622
1.6571	1.4690	1.2752	0.094	HZ-127	0.076	0.017	0.042	H-127	0.092	0.017	0.058	2-127	1.424	1.630	0.103	1.424	1.438	0.123	.074-.080	1.670	1.684
1.7204	1.5320	1.3385	0.094	HZ-128	0.076	0.017	0.042	H-128	0.092	0.017	0.058	2-128	1.487	1.693	0.103	1.487	1.502	0.123	.074-.080	1.733	1.748
1.7827	1.5940	1.4008	0.094	HZ-129	0.076	0.017	0.042	H-129	0.092	0.017	0.058	2-129	1.549	1.755	0.103	1.549	1.564	0.123	.074-.080	1.795	1.810
1.8461	1.6570	1.4642	0.095	HZ-130	0.076	0.017	0.042	H-130	0.092	0.017	0.058	2-130	1.612	1.818	0.103	1.612	1.628	0.123	.074-.080	1.858	1.874
1.9084	1.7190	1.5265	0.095	HZ-131	0.076	0.017	0.042	H-131	0.092	0.017	0.058	2-131	1.674	1.880	0.103	1.674	1.691	0.123	.074-.080	1.920	1.937
1.9717	1.7820	1.5898	0.095	HZ-132	0.076	0.017	0.042	H-132	0.092	0.017	0.058	2-132	1.737	1.943	0.103	1.737	1.754	0.123	.074-.080	1.983	2.000
2.0340	1.8440	1.6521	0.095	HZ-133	0.076	0.017	0.042	H-133	0.092	0.017	0.058	2-133	1.799	2.005	0.103	1.799	1.817	0.123	.074-.080	2.045	2.063
2.0973	1.9070	1.7154	0.095	HZ-134	0.076	0.017	0.042	H-134	0.092	0.017	0.058	2-134	1.862	2.068	0.103	1.862	1.881	0.123	.074-.080	2.108	2.127
2.1606	1.9700	1.7787	0.095	HZ-135	0.076	0.017	0.042	H-135	0.092	0.017	0.058	2-135	1.925	2.131	0.103	1.925	1.944	0.123	.074-.080	2.171	2.190
2.2229	2.0320	1.8410	0.095	HZ-136	0.076	0.017	0.042	H-136	0.092	0.017	0.058	2-136	1.987	2.193	0.103	1.987	2.007	0.123	.074-.080	2.233	2.253
2.2863	2.0950	1.9044	0.096	HZ-137	0.076	0.017	0.042	H-137	0.092	0.017	0.058	2-137	2.050	2.256	0.103	2.050	2.071	0.123	.074-.080	2.296	2.317
2.3486	2.1570	1.9667	0.096	HZ-138	0.076	0.017	0.042	H-138	0.092	0.017	0.058	2-138	2.112	2.318	0.103	2.112	2.133	0.123	.074-.080	2.358	2.379
2.4119	2.2200	2.0300	0.096	HZ-139	0.076	0.017	0.042	H-139	0.092	0.017	0.058	2-139	2.175	2.381	0.103	2.175	2.197	0.123	.074-.080	2.421	2.443
2.4742	2.2820	2.0923	0.096	HZ-140	0.076	0.017	0.042	H-140	0.092	0.017	0.058	2-140	2.237	2.443	0.103	2.237	2.259	0.123	.074-.080	2.483	2.505
2.5375	2.3450	2.1556	0.096	HZ-141	0.076	0.017	0.042	H-141	0.092	0.017	0.058	2-141	2.300	2.506	0.103	2.300	2.323	0.123	.074-.080	2.546	2.569
2.5998	2.4070	2.2179	0.096	HZ-142	0.076	0.017	0.042	H-142	0.092	0.017	0.058	2-142	2.362	2.568	0.103	2.362	2.386	0.123	.074-.080	2.608	2.632
2.6631	2.4700	2.2812	0.097	HZ-143	0.076	0.017	0.042	H-143	0.092	0.017	0.058	2-143	2.425	2.631	0.103	2.425	2.449	0.123	.074-.080	2.671	2.695
2.7254	2.5320	2.3435	0.097	HZ-144	0.076	0.017	0.042	H-144	0.092	0.017	0.058	2-144	2.487	2.693	0.103	2.487	2.512	0.123	.074-.080	2.733	2.758
2.7888	2.5950	2.4069	0.097	HZ-145	0.076	0.017	0.042	H-145	0.092	0.017	0.058	2-145	2.550	2.756	0.103	2.550	2.576	0.123	.074-.080	2.796	2.822
2.8511	2.6570	2.4692	0.097	HZ-146	0.076	0.017	0.042	H-146	0.092	0.017	0.058	2-146	2.612	2.818	0.103	2.612	2.638	0.123	.074-.080	2.858	2.884
2.9144	2.7200	2.5325	0.097	HZ-147	0.076	0.017	0.042	H-147	0.092	0.017	0.058	2-147	2.675	2.881	0.103	2.675	2.702	0.123	.074-.080	2.921	2.948
2.9767	2.7820	2.5948	0.097	HZ-148	0.076	0.017	0.042	H-148	0.092	0.017	0.058	2-148	2.737	2.943	0.103	2.737	2.764	0.123	.074-.080	2.983	3.010
3.0400	2.8450	2.6581	0.097	HZ-149	0.076	0.017	0.042	H-149	0.092	0.017	0.058	2-149	2.800	3.006	0.103	2.800	2.828	0.123	.074-.080	3.046	3.074
3.1023	2.9070	2.7204	0.098	HZ-150	0.076	0.017	0.042	H-150	0.092	0.017	0.058	2-150	2.862	3.068	0.103	2.862	2.891	0.123	.074-.080	3.108	3.137
3.2279	3.0320	2.8460	0.098	HZ-151	0.076	0.017	0.042	H-151	0.092	0.017	0.058	2-151	2.987	3.193	0.103	2.987	3.017	0.123	.074-.080	3.233	3.263
3.4792	3.2820	3.0973	0.099	HZ-152	0.076	0.017	0.042	H-152	0.092	0.017	0.058	2-152	3.237	3.443	0.103	3.237	3.269	0.123	.074-.080	3.483	3.515
3.7304	3.5320	3.3485	0.099	HZ-153	0.076	0.017	0.042	H-153	0.092	0.017	0.058	2-153	3.487	3.693	0.103	3.487	3.522	0.123	.074-.080	3.733	3.768
3.9817	3.7820	3.5998	0.100	HZ-154	0.076	0.017	0.042	H-154	0.092	0.017	0.058	2-154	3.737	3.943	0.103	3.737	3.774	0.123	.074-.080	3.983	4.020
4.2329	4.0320	3.8510	0.100	HZ-155	0.076	0.017	0.042	H-155	0.092	0.017	0.058	2-155	3.987	4.193	0.103	3.987	4.027	0.123	.074-.080	4.233	4.273
4.4842	4.3120	4.1023	0.086	HZ-156	0.076	0.017	0.042	H-156	0.092	0.017	0.058	2-156	4.237	4.443	0.103	4.237	4.279	0.123	.074-.080	4.483	4.525

H-Seal + O-Ring Dimensions - 2018 / 2019 / Inches -

H-Seal OD, Step ID and ID Basic Dimensions				Zero Clearance			Gap H-Seals			Interchangeable Elastomeric O-Ring Dimensions											
<h3 style="margin: 0;">North American Dimensions (inches)</h3>				Zero Clearance H-Seals allow the mating glands to bottom against each other. This means finished-assembly stack-up dimensions are the same whether an H-Seal or an elastomeric o-ring is used in the gland. Check the Assembly & Compression columns to the right for tooth penetration values.			Gap H-Seals provide a positive compression stop for the mating glands. The glands bottom against the H-Seal and leave a gap between parts that can be used for leak checking. Note the Assembly & Compression columns to the right for gap dimensions.														
				This is an abbreviated spreadsheet showing only H-Seal dimensions. Call or email Bostec for the full spreadsheet showing Assembly & Compression values for H-Seals and H-Glands. We will also send you machining guidelines.																	
OD ±.001	Step ID ±.001	H-Seal ID ±.001	Flange Cross Section Width	Zero Clearance H-Seal Part Number			Gap H-Seal Part Number			Parker Hannifin Part Number		O-Ring									
				H-Z	Flange Thickness +00 / -.001	Sealing surface: recess depth per side +.001 / -.00	Web Thickness ±.001	H-H	Flange Thickness +00 / -.001	Sealing surface: recess depth per side +.001 / -.00	Web Thickness ±.001	ID	OD	Cross Section	O-Ring Face Seal Gland Dimensions		ID (Mean ID of O-Ring, Ref)	ID max (ID min + 1% of Mean ID)	Gland (trough) Width for Vacuum & Gasses	Gland (trough) Depth - from Parker Hannifin	OD min (calculated from tolerance range)
4.7354	4.5620	4.3535	0.087	HZ-157	0.076	0.017	0.042	H-157	0.092	0.017	0.058	2-157	4.487	4.693	0.103	4.487	4.532	0.123	.074-.080	4.733	4.778
4.9867	4.8120	4.6048	0.087	HZ-158	0.076	0.017	0.042	H-158	0.092	0.017	0.058	2-158	4.737	4.943	0.103	4.737	4.784	0.123	.074-.080	4.983	5.030
5.2379	5.0620	4.8560	0.088	HZ-159	0.076	0.017	0.042	H-159	0.092	0.017	0.058	2-159	4.987	5.193	0.103	4.987	5.037	0.123	.074-.080	5.233	5.283
5.4892	5.3120	5.1073	0.089	HZ-160	0.076	0.017	0.042	H-160	0.092	0.017	0.058	2-160	5.237	5.443	0.103	5.237	5.289	0.123	.074-.080	5.483	5.533
5.7404	5.5620	5.3585	0.089	HZ-161	0.076	0.017	0.042	H-161	0.092	0.017	0.058	2-161	5.487	5.693	0.103	5.487	5.542	0.123	.074-.080	5.733	5.788
5.9917	5.8120	5.6098	0.090	HZ-162	0.076	0.017	0.042	H-162	0.092	0.017	0.058	2-162	5.737	5.943	0.103	5.737	5.794	0.123	.074-.080	5.983	6.040
6.2429	6.0620	5.8610	0.090	HZ-163	0.076	0.017	0.042	H-163	0.092	0.017	0.058	2-163	5.987	6.193	0.103	5.987	6.047	0.123	.074-.080	6.233	6.293
6.4942	6.3120	6.1123	0.091	HZ-164	0.076	0.017	0.042	H-164	0.092	0.017	0.058	2-164	6.237	6.443	0.103	6.237	6.299	0.123	.074-.080	6.483	6.545
6.7454	6.5620	6.3635	0.092	HZ-165	0.076	0.017	0.042	H-165	0.092	0.017	0.058	2-165	6.487	6.693	0.103	6.487	6.552	0.123	.074-.080	6.733	6.798
6.9967	6.8120	6.6148	0.092	HZ-166	0.076	0.017	0.042	H-166	0.092	0.017	0.058	2-166	6.737	6.943	0.103	6.737	6.804	0.123	.074-.080	6.983	7.050
7.2479	7.0620	6.8660	0.093	HZ-167	0.076	0.017	0.042	H-167	0.092	0.017	0.058	2-167	6.987	7.193	0.103	6.987	7.057	0.123	.074-.080	7.233	7.303
7.4992	7.3120	7.1173	0.094	HZ-168	0.076	0.017	0.042	H-168	0.092	0.017	0.058	2-168	7.237	7.443	0.103	7.237	7.309	0.123	.074-.080	7.483	7.555
7.7504	7.5620	7.3685	0.094	HZ-169	0.076	0.017	0.042	H-169	0.092	0.017	0.058	2-169	7.487	7.693	0.103	7.487	7.562	0.123	.074-.080	7.733	7.808
8.0017	7.8120	7.6198	0.095	HZ-170	0.076	0.017	0.042	H-170	0.092	0.017	0.058	2-170	7.737	7.943	0.103	7.737	7.814	0.123	.074-.080	7.983	8.060
8.2529	8.0620	7.8710	0.095	HZ-171	0.076	0.017	0.042	H-171	0.092	0.017	0.058	2-171	7.987	8.193	0.103	7.987	8.067	0.123	.074-.080	8.233	8.313
8.5042	8.3120	8.1223	0.096	HZ-172	0.076	0.017	0.042	H-172	0.092	0.017	0.058	2-172	8.237	8.443	0.103	8.237	8.319	0.123	.074-.080	8.483	8.565
8.7554	8.5620	8.3735	0.097	HZ-173	0.076	0.017	0.042	H-173	0.092	0.017	0.058	2-173	8.487	8.693	0.103	8.487	8.572	0.123	.074-.080	8.733	8.818
9.0067	8.8120	8.6248	0.097	HZ-174	0.076	0.017	0.042	H-174	0.092	0.017	0.058	2-174	8.737	8.943	0.103	8.737	8.824	0.123	.074-.080	8.983	9.070
9.2579	9.0620	8.8760	0.098	HZ-175	0.076	0.017	0.042	H-175	0.092	0.017	0.058	2-175	8.987	9.193	0.103	8.987	9.077	0.123	.074-.080	9.233	9.323
9.5092	9.3120	9.1273	0.099	HZ-176	0.076	0.017	0.042	H-176	0.092	0.017	0.058	2-176	9.237	9.443	0.103	9.237	9.329	0.123	.074-.080	9.483	9.575
9.7604	9.5620	9.3785	0.099	HZ-177	0.076	0.017	0.042	H-177	0.092	0.017	0.058	2-177	9.487	9.693	0.103	9.487	9.582	0.123	.074-.080	9.733	9.828
10.0117	9.8120	9.6298	0.100	HZ-178	0.076	0.017	0.042	H-178	0.092	0.017	0.058	2-178	9.737	9.943	0.103	9.737	9.834	0.123	.074-.080	9.983	10.080
1.3452	1.1210	0.8547	0.112	HZ-215	0.101	0.024	0.053	H-215	0.122	0.024	0.074	2-215	1.046	1.324	0.139	1.046	1.056	0.161	.101-.107	1.368	1.378
1.4085	1.1840	0.9180	0.112	HZ-216	0.101	0.024	0.053	H-216	0.122	0.024	0.074	2-216	1.109	1.387	0.139	1.109	1.120	0.161	.101-.107	1.431	1.442
1.4709	1.2460	0.9804	0.112	HZ-217	0.101	0.024	0.053	H-217	0.122	0.024	0.074	2-217	1.171	1.449	0.139	1.171	1.183	0.161	.101-.107	1.493	1.505
1.5342	1.3090	1.0437	0.113	HZ-218	0.101	0.024	0.053	H-218	0.122	0.024	0.074	2-218	1.234	1.512	0.139	1.234	1.246	0.161	.101-.107	1.556	1.568
1.5965	1.3710	1.1060	0.113	HZ-219	0.101	0.024	0.053	H-219	0.122	0.024	0.074	2-219	1.296	1.574	0.139	1.296	1.309	0.161	.101-.107	1.618	1.631
1.6598	1.4340	1.1693	0.113	HZ-220	0.101	0.024	0.053	H-220	0.122	0.024	0.074	2-220	1.359	1.637	0.139	1.359	1.373	0.161	.101-.107	1.681	1.695
1.7221	1.4960	1.2316	0.113	HZ-221	0.101	0.024	0.053	H-221	0.122	0.024	0.074	2-221	1.421	1.699	0.139	1.421	1.435	0.161	.101-.107	1.743	1.757
1.7854	1.5590	1.2949	0.113	HZ-222	0.101	0.024	0.053	H-222	0.122	0.024	0.074	2-222	1.484	1.762	0.139	1.484	1.499	0.161	.101-.107	1.806	1.821
1.9110	1.6840	1.4205	0.114	HZ-223	0.101	0.024	0.053	H-223	0.122	0.024	0.074	2-223	1.609	1.887	0.139	1.609	1.625	0.161	.101-.107	1.931	1.947
2.0367	1.8090	1.5462	0.114	HZ-224	0.101	0.024	0.053	H-224	0.122	0.024	0.074	2-224	1.734	2.012	0.139	1.734	1.751	0.161	.101-.107	2.056	2.073
2.1623	1.9340	1.6718	0.114	HZ-225	0.101	0.024	0.053	H-225	0.122	0.024	0.074	2-225	1.859	2.137	0.139	1.859	1.878	0.161	.101-.107	2.181	2.200
2.2879	2.0590	1.7974	0.114	HZ-226	0.101	0.024	0.053	H-226	0.122	0.024	0.074	2-226	1.984	2.262	0.139	1.984	2.004	0.161	.101-.107	2.306	2.326
2.4135	2.1840	1.9230	0.115	HZ-227	0.101	0.024	0.053	H-227	0.122	0.024	0.074	2-227	2.109	2.387	0.139	2.109	2.130	0.161	.101-.107	2.431	2.452
2.5392	2.3090	2.0487	0.115	HZ-228	0.101	0.024	0.053	H-228	0.122	0.024	0.074	2-228	2.234	2.512	0.139	2.234	2.256	0.161	.101-.107	2.556	2.578
2.6648	2.4340	2.1743	0.115	HZ-229	0.101	0.024	0.053	H-229	0.122	0.024	0.074	2-229	2.359	2.637	0.139	2.359	2.383	0.161	.101-.107	2.681	2.705
2.7904	2.5590	2.2999	0.116	HZ-230	0.101	0.024	0.053	H-230	0.122	0.024	0.074	2-230	2.484	2.762	0.139	2.484	2.509	0.161	.101-.107	2.806	2.831
2.9160	2.6840	2.4255	0.116	HZ-231	0.101	0.024	0.053	H-231	0.122	0.024	0.074	2-231	2.609	2.887	0.139	2.609	2.635	0.161	.101-.107	2.931	2.957
3.0417	2.8090	2.5512	0.116	HZ-232	0.101	0.024	0.053	H-232	0.122	0.024	0.074	2-232	2.734	3.012	0.139	2.734	2.761	0.161	.101-.107	3.056	3.083
3.1673	2.9340	2.6768	0.117	HZ-233	0.101	0.024	0.053	H-233	0.122	0.024	0.074	2-233	2.859	3.137	0.139	2.859	2.888	0.161	.101-.107	3.181	3.210
3.2929	3.0590	2.8024	0.117	HZ-234	0.101	0.024	0.053	H-234	0.122	0.024	0.074	2-234	2.984	3.262	0.139	2.984	3.014	0.161	.101-.107	3.306	3.336
3.4185	3.1840	2.9280	0.117	HZ-235	0.101	0.024	0.053	H-235	0.122	0.024	0.074	2-235	3.109	3.387	0.139	3.109	3.140	0.161	.101-.107	3.431	3.462

H-Seal + O-Ring Dimensions - 2018 / 2019 / Inches -

H-Seal OD, Step ID and ID Basic Dimensions				Zero Clearance			Gap H-Seals			Interchangeable Elastomeric O-Ring Dimensions																																																																																				
<h3 style="margin: 0;">North American Dimensions (inches)</h3>				<p>Zero Clearance H-Seals allow the mating glands to bottom against each other. This means finished-assembly stack-up dimensions are the same whether an H-Seal or an elastomeric o-ring is used in the gland. Check the Assembly & Compression columns to the right for tooth penetration values.</p>			<p>Gap H-Seals provide a positive compression stop for the mating glands. The glands bottom against the H-Seal and leave a gap between parts that can be used for leak checking. Note the Assembly & Compression columns to the right for gap dimensions.</p>																																																																																							
This is an abbreviated spreadsheet showing only H-Seal dimensions. Call or email Bostec for the full spreadsheet showing Assembly & Compression values for H-Seals and H-Glands. We will also send you machining guidelines.																																																																																														
OD ±.001	Step ID ±.001	H-Seal ID ±.001	Flange Cross Section Width	Zero Clearance H-Seal Part Number			Gap H-Seal Part Number			Parker Hannifin Part Number	O-Ring		O-Ring Face Seal Gland Dimensions																																																																																	
				H-Z-236	H-Z-237	H-Z-238	H-Z-239	H-Z-240	H-Z-241		H-Z-242	H-Z-243	H-Z-244	H-Z-245	H-Z-246	H-Z-247	H-Z-248	H-Z-249	H-Z-250	H-Z-251	H-Z-252	H-Z-253	H-Z-254	H-Z-255	H-Z-256	H-Z-257	H-Z-258	H-Z-259	H-Z-260	H-Z-261	H-Z-262	H-Z-263	H-Z-264	H-Z-265	H-Z-266	H-Z-267	H-Z-268	H-Z-269	H-Z-270	H-Z-271	H-Z-272	H-Z-360	H-Z-361	H-Z-362	H-Z-363	H-Z-364	H-Z-365	H-236	H-237	H-238	H-239	H-240	H-241	H-242	H-243	H-244	H-245	H-246	H-247	H-248	H-249	H-250	H-251	H-252	H-253	H-254	H-255	H-256	H-257	H-258	H-259	H-260	H-261	H-262	H-263	H-264	H-265	H-266	H-267	H-268	H-269	H-270	H-271	H-272	H-360	H-361	H-362	H-363	H-364	H-365	ID	OD	Cross Section	ID (Mean ID of O-Ring, Ref)
3.5442	3.3090	3.0537	0.118	HZ-236	0.101	0.024	0.053	H-236	0.122	0.024	0.074	2-236	3.234	3.512	0.139	3.234	3.266	0.161	.101-.107	3.556	3.588																																																																									
3.6698	3.4340	3.1793	0.118	HZ-237	0.101	0.024	0.053	H-237	0.122	0.024	0.074	2-237	3.359	3.637	0.139	3.359	3.393	0.161	.101-.107	3.681	3.715																																																																									
3.7954	3.5590	3.3049	0.118	HZ-238	0.101	0.024	0.053	H-238	0.122	0.024	0.074	2-238	3.484	3.762	0.139	3.484	3.519	0.161	.101-.107	3.806	3.841																																																																									
3.9210	3.6840	3.4305	0.119	HZ-239	0.101	0.024	0.053	H-239	0.122	0.024	0.074	2-239	3.609	3.887	0.139	3.609	3.645	0.161	.101-.107	3.931	3.967																																																																									
4.0467	3.8090	3.5562	0.119	HZ-240	0.101	0.024	0.053	H-240	0.122	0.024	0.074	2-240	3.734	4.012	0.139	3.734	3.771	0.161	.101-.107	4.056	4.093																																																																									
4.1723	3.9340	3.6818	0.119	HZ-241	0.101	0.024	0.053	H-241	0.122	0.024	0.074	2-241	3.859	4.137	0.139	3.859	3.898	0.161	.101-.107	4.181	4.220																																																																									
4.2979	4.0590	3.8074	0.119	HZ-242	0.101	0.024	0.053	H-242	0.122	0.024	0.074	2-242	3.984	4.262	0.139	3.984	4.024	0.161	.101-.107	4.306	4.346																																																																									
4.4235	4.1840	3.9330	0.120	HZ-243	0.101	0.024	0.053	H-243	0.122	0.024	0.074	2-243	4.109	4.387	0.139	4.109	4.150	0.161	.101-.107	4.431	4.472																																																																									
4.5492	4.3090	4.0587	0.120	HZ-244	0.101	0.024	0.053	H-244	0.122	0.024	0.074	2-244	4.234	4.512	0.139	4.234	4.276	0.161	.101-.107	4.556	4.598																																																																									
4.6748	4.4340	4.1843	0.120	HZ-245	0.101	0.024	0.053	H-245	0.122	0.024	0.074	2-245	4.359	4.637	0.139	4.359	4.403	0.161	.101-.107	4.681	4.725																																																																									
4.8004	4.5590	4.3099	0.121	HZ-246	0.101	0.024	0.053	H-246	0.122	0.024	0.074	2-246	4.484	4.762	0.139	4.484	4.529	0.161	.101-.107	4.806	4.851																																																																									
4.9260	4.6840	4.4355	0.121	HZ-247	0.101	0.024	0.053	H-247	0.122	0.024	0.074	2-247	4.609	4.887	0.139	4.609	4.655	0.161	.101-.107	4.931	4.977																																																																									
5.0517	4.8090	4.5612	0.121	HZ-248	0.101	0.024	0.053	H-248	0.122	0.024	0.074	2-248	4.734	5.012	0.139	4.734	4.781	0.161	.101-.107	5.056	5.103																																																																									
5.1773	4.9340	4.6868	0.122	HZ-249	0.101	0.024	0.053	H-249	0.122	0.024	0.074	2-249	4.859	5.137	0.139	4.859	4.908	0.161	.101-.107	5.181	5.230																																																																									
5.3029	5.0590	4.8124	0.122	HZ-250	0.101	0.024	0.053	H-250	0.122	0.024	0.074	2-250	4.984	5.262	0.139	4.984	5.034	0.161	.101-.107	5.306	5.356																																																																									
5.4285	5.1840	4.9380	0.122	HZ-251	0.101	0.024	0.053	H-251	0.122	0.024	0.074	2-251	5.109	5.387	0.139	5.109	5.160	0.161	.101-.107	5.431	5.482																																																																									
5.5542	5.3090	5.0637	0.123	HZ-252	0.101	0.024	0.053	H-252	0.122	0.024	0.074	2-252	5.234	5.512	0.139	5.234	5.286	0.161	.101-.107	5.556	5.608																																																																									
5.6798	5.4340	5.1893	0.123	HZ-253	0.101	0.024	0.053	H-253	0.122	0.024	0.074	2-253	5.359	5.637	0.139	5.359	5.413	0.161	.101-.107	5.681	5.735																																																																									
5.8054	5.5590	5.3149	0.123	HZ-254	0.101	0.024	0.053	H-254	0.122	0.024	0.074	2-254	5.484	5.762	0.139	5.484	5.539	0.161	.101-.107	5.806	5.861																																																																									
5.9310	5.6840	5.4405	0.124	HZ-255	0.101	0.024	0.053	H-255	0.122	0.024	0.074	2-255	5.609	5.887	0.139	5.609	5.665	0.161	.101-.107	5.931	5.987																																																																									
6.0567	5.8090	5.5662	0.124	HZ-256	0.101	0.024	0.053	H-256	0.122	0.024	0.074	2-256	5.734	6.012	0.139	5.734	5.791	0.161	.101-.107	6.056	6.113																																																																									
6.1823	5.9340	5.6918	0.124	HZ-257	0.101	0.024	0.053	H-257	0.122	0.024	0.074	2-257	5.859	6.137	0.139	5.859	5.918	0.161	.101-.107	6.181	6.240																																																																									
6.3079	6.0590	5.8174	0.124	HZ-258	0.101	0.024	0.053	H-258	0.122	0.024	0.074	2-258	5.984	6.262	0.139	5.984	6.044	0.161	.101-.107	6.306	6.366																																																																									
6.5592	6.3290	6.0687	0.115	HZ-259	0.101	0.024	0.053	H-259	0.122	0.024	0.074	2-259	6.234	6.512	0.139	6.234	6.296	0.161	.101-.107	6.556	6.618																																																																									
6.8104	6.5790	6.3199	0.116	HZ-260	0.101	0.024	0.053	H-260	0.122	0.024	0.074	2-260	6.484	6.762	0.139	6.484	6.549	0.161	.101-.107	6.806	6.871																																																																									
7.0617	6.8290	6.5712	0.116	HZ-261	0.101	0.024	0.053	H-261	0.122	0.024	0.074	2-261	6.734	7.012	0.139	6.734	6.801	0.161	.101-.107	7.056	7.123																																																																									
7.3129	7.0790	6.8224	0.117	HZ-262	0.101	0.024	0.053	H-262	0.122	0.024	0.074	2-262	6.984	7.262	0.139	6.984	7.054	0.161	.101-.107	7.306	7.376																																																																									
7.5642	7.3290	7.0737	0.118	HZ-263	0.101	0.024	0.053	H-263	0.122	0.024	0.074	2-263	7.234	7.512	0.139	7.234	7.306	0.161	.101-.107	7.556	7.628																																																																									
7.8154	7.5790	7.3249	0.118	HZ-264	0.101	0.024	0.053	H-264	0.122	0.024	0.074	2-264	7.484	7.762	0.139	7.484	7.559	0.161	.101-.107	7.806	7.881																																																																									
8.0667	7.8290	7.5762	0.119	HZ-265	0.101	0.024	0.053	H-265	0.122	0.024	0.074	2-265	7.734	8.012	0.139	7.734	7.811	0.161	.101-.107	8.056	8.133																																																																									
8.3179	8.0790	7.8274	0.119	HZ-266	0.101	0.024	0.053	H-266	0.122	0.024	0.074	2-266	7.984	8.262	0.139	7.984	8.064	0.161	.101-.107	8.306	8.386																																																																									
8.5692	8.3290	8.0787	0.120	HZ-267	0.101	0.024	0.053	H-267	0.122	0.024	0.074	2-267	8.234	8.512	0.139	8.234	8.316	0.161	.101-.107	8.556	8.638																																																																									
8.8204	8.5790	8.3299	0.121	HZ-268	0.101	0.024	0.053	H-268	0.122	0.024	0.074	2-268	8.484	8.762	0.139	8.484	8.569	0.161	.101-.107	8.806	8.891																																																																									
9.0717	8.8290	8.5812	0.121	HZ-269	0.101	0.024	0.053	H-269	0.122	0.024	0.074	2-269	8.734	9.012	0.139	8.734	8.821	0.161	.101-.107	9.056	9.143																																																																									
9.3229	9.0790	8.8324	0.122	HZ-270	0.101	0.024	0.053	H-270	0.122	0.024	0.074	2-270	8.984	9.262	0.139	8.984	9.074	0.161	.101-.107	9.306	9.396																																																																									
9.5742	9.3290	9.0837	0.123	HZ-271	0.101	0.024	0.053	H-271	0.122	0.024	0.074	2-271	9.234	9.512	0.139	9.234	9.326	0.161	.101-.107	9.556	9.648																																																																									
9.8254	9.5790	9.3349	0.123	HZ-272	0.101	0.024	0.053	H-272	0.122	0.024	0.074	2-272	9.484	9.762	0.139	9.484	9.579	0.161	.101-.107	9.806	9.901																																																																									
6.3263	5.9500	5.5329	0.188	HZ-360	0.154	0.050	0.054	H-360	0.185	0.050	0.085	2-360	5.850	6.270	0.210	5.850	5.909	0.241	.152-.162	6.332	6.391																																																																									
6.4519	6.0750	5.6585	0.188	HZ-361	0.154	0.050	0.054	H-361	0.185	0.050	0.085	2-361	5.975	6.395	0.210	5.975	6.035	0.241	.152-.162	6.457	6.517																																																																									
6.7031	6.3250	5.9097	0.189	HZ-362	0.154	0.050	0.054	H-362	0.185	0.050	0.085	2-362	6.225	6.645	0.210	6.225	6.287	0.241	.152-.162	6.707	6.769																																																																									
6.9544	6.5750	6.1610	0.190	HZ-363	0.154	0.050	0.054	H-363	0.185	0.050	0.085	2-363	6.475	6.895	0.210	6.475	6.540	0.241	.152-.162	6.957	7.022																																																																									
7.2056	6.8250	6.4122	0.190	HZ-364	0.154	0.050	0.054	H-364	0.185	0.050	0.085	2-364	6.725	7.145	0.210	6.725	6.792	0.241	.152-.162	7.207	7.274																																																																									
7.4569	7.0750	6.6635	0.191	HZ-365	0.154	0.050	0.054	H-365	0.185	0.050	0.085	2-365	6.975	7.395	0.210	6.975	7.045	0.241	.152-.162	7.457	7.527																																																																									

H-Seal + O-Ring Dimensions - 2018 / 2019 / Inches -

H-Seal OD, Step ID and ID Basic Dimensions				Zero Clearance			Gap H-Seals			Interchangeable Elastomeric O-Ring Dimensions											
<h3 style="margin: 0;">North American Dimensions (inches)</h3>				Zero Clearance H-Seals allow the mating glands to bottom against each other. This means finished-assembly stack-up dimensions are the same whether an H-Seal or an elastomeric o-ring is used in the gland. Check the Assembly & Compression columns to the right for tooth penetration values.			Gap H-Seals provide a positive compression stop for the mating glands. The glands bottom against the H-Seal and leave a gap between parts that can be used for leak checking. Note the Assembly & Compression columns to the right for gap dimensions.														
										This is an abbreviated spreadsheet showing only H-Seal dimensions. Call or email Bostec for the full spreadsheet showing Assembly & Compression values for H-Seals and H-Glands. We will also send you machining guidelines.											
OD ±.001	Step ID ±.001	H-Seal ID ±.001	Flange Cross Section Width	Zero Clearance H-Seal Part Number			Gap H-Seal Part Number			Parker Hannifin Part Number			O-Ring								
				H-Seal Flange Thickness +00 / -.001	Sealing surface: recess depth per side +.001 / -.00	Web Thickness ±.001	H-Seal Flange Thickness +00 / -.001	Sealing surface: recess depth per side +.001 / -.00	Web Thickness ±.001	ID	OD	Cross Section	ID (Mean ID of O-Ring, Ref)	ID max (ID min + 1% of Mean ID)	Gland (rough) Width for Vacuum & Gasses	Gland (rough) Depth - from Parker Hannifin	OD min (calculated from tolerance range)	OD max (calculated from tolerance range)			
7.7081	7.3250	6.9147	0.192	HZ-366	0.154	0.050	0.054	H-366	0.185	0.050	0.085	2-366	7.225	7.645	0.210	7.225	7.297	0.241	.152-.162	7.707	7.779
7.9594	7.5750	7.1660	0.192	HZ-367	0.154	0.050	0.054	H-367	0.185	0.050	0.085	2-367	7.475	7.895	0.210	7.475	7.550	0.241	.152-.162	7.957	8.032
8.2106	7.8250	7.4172	0.193	HZ-368	0.154	0.050	0.054	H-368	0.185	0.050	0.085	2-368	7.725	8.145	0.210	7.725	7.802	0.241	.152-.162	8.207	8.284
8.4619	8.0750	7.6685	0.193	HZ-369	0.154	0.050	0.054	H-369	0.185	0.050	0.085	2-369	7.975	8.395	0.210	7.975	8.055	0.241	.152-.162	8.457	8.537
8.7131	8.3250	7.9197	0.194	HZ-370	0.154	0.050	0.054	H-370	0.185	0.050	0.085	2-370	8.225	8.645	0.210	8.225	8.307	0.241	.152-.162	8.707	8.789
8.9644	8.5750	8.1710	0.195	HZ-371	0.154	0.050	0.054	H-371	0.185	0.050	0.085	2-371	8.475	8.895	0.210	8.475	8.560	0.241	.152-.162	8.957	9.042
9.2156	8.8250	8.4222	0.195	HZ-372	0.154	0.050	0.054	H-372	0.185	0.050	0.085	2-372	8.725	9.145	0.210	8.725	8.812	0.241	.152-.162	9.207	9.294
9.4669	9.0750	8.6735	0.196	HZ-373	0.154	0.050	0.054	H-373	0.185	0.050	0.085	2-373	8.975	9.395	0.210	8.975	9.065	0.241	.152-.162	9.457	9.547
9.7181	9.3250	8.9247	0.197	HZ-374	0.154	0.050	0.054	H-374	0.185	0.050	0.085	2-374	9.225	9.645	0.210	9.225	9.317	0.241	.152-.162	9.707	9.799
9.9694	9.5750	9.1760	0.197	HZ-375	0.154	0.050	0.054	H-375	0.185	0.050	0.085	2-375	9.475	9.895	0.210	9.475	9.570	0.241	.152-.162	9.957	10.052
10.2206	9.8250	9.4272	0.198	HZ-376	0.154	0.050	0.054	H-376	0.185	0.050	0.085	2-376	9.725	10.145	0.210	9.725	9.822	0.241	.152-.162	10.207	10.304
10.4719	10.1750	9.6785	0.148	HZ-377	0.154	0.050	0.054	H-377	0.185	0.050	0.085	2-377	9.975	10.395	0.210	9.975	10.075	0.241	.152-.162	10.457	10.557
10.9744	10.6750	10.1810	0.150	HZ-378	0.154	0.050	0.054	H-378	0.185	0.050	0.085	2-378	10.475	10.895	0.210	10.475	10.580	0.241	.152-.162	10.957	11.062
11.4769	11.1750	10.6835	0.151	HZ-379	0.154	0.050	0.054	H-379	0.185	0.050	0.085	2-379	10.975	11.395	0.210	10.975	11.085	0.241	.152-.162	11.457	11.567
11.9794	11.6750	11.1860	0.152	HZ-380	0.154	0.050	0.054	H-380	0.185	0.050	0.085	2-380	11.475	11.895	0.210	11.475	11.590	0.241	.152-.162	11.957	12.072
12.4819	12.1750	11.6885	0.153	HZ-381	0.154	0.050	0.054	H-381	0.185	0.050	0.085	2-381	11.975	12.395	0.210	11.975	12.095	0.241	.152-.162	12.457	12.577
13.4869	13.1750	12.6935	0.156	HZ-382	0.154	0.050	0.054	H-382	0.185	0.050	0.085	2-382	12.975	13.395	0.210	12.975	13.105	0.241	.152-.162	13.457	13.587
14.4919	14.1750	13.6985	0.158	HZ-383	0.154	0.050	0.054	H-383	0.185	0.050	0.085	2-383	13.975	14.395	0.210	13.975	14.115	0.241	.152-.162	14.457	14.597
15.4969	15.1750	14.7035	0.161	HZ-384	0.154	0.050	0.054	H-384	0.185	0.050	0.085	2-384	14.975	15.395	0.210	14.975	15.125	0.241	.152-.162	15.457	15.607
16.4818	16.1550	15.6884	0.163	HZ-385	0.154	0.050	0.054	H-385	0.185	0.050	0.085	2-385	15.955	16.375	0.210	15.955	16.115	0.241	.152-.162	16.437	16.597
17.4868	17.1550	16.6934	0.166	HZ-386	0.154	0.050	0.054	H-386	0.185	0.050	0.085	2-386	16.955	17.375	0.210	16.955	17.125	0.241	.152-.162	17.437	17.607
18.4918	18.1550	17.6984	0.168	HZ-387	0.154	0.050	0.054	H-387	0.185	0.050	0.085	2-387	17.955	18.375	0.210	17.955	18.135	0.241	.152-.162	18.437	18.617
19.4968	19.1550	18.7034	0.171	HZ-388	0.154	0.050	0.054	H-388	0.185	0.050	0.085	2-388	18.955	19.375	0.210	18.955	19.145	0.241	.152-.162	19.437	19.627
20.5018	20.1550	19.7084	0.173	HZ-389	0.154	0.050	0.054	H-389	0.185	0.050	0.085	2-389	19.955	20.375	0.210	19.955	20.155	0.241	.152-.162	20.437	20.637
21.5068	21.1550	20.7134	0.176	HZ-390	0.154	0.050	0.054	H-390	0.185	0.050	0.085	2-390	20.955	21.375	0.210	20.955	21.165	0.241	.152-.162	21.437	21.647
22.5118	22.1550	21.7184	0.178	HZ-391	0.154	0.050	0.054	H-391	0.185	0.050	0.085	2-391	21.955	22.375	0.210	21.955	22.175	0.241	.152-.162	22.437	22.657
23.5017	23.1400	22.7083	0.181	HZ-392	0.154	0.050	0.054	H-392	0.185	0.050	0.085	2-392	22.940	23.360	0.210	22.940	23.169	0.241	.152-.162	23.422	23.651
24.5067	24.1400	23.7133	0.183	HZ-393	0.154	0.050	0.054	H-393	0.185	0.050	0.085	2-393	23.940	24.360	0.210	23.940	24.179	0.241	.152-.162	24.422	24.661
25.5117	25.1400	24.7183	0.186	HZ-394	0.154	0.050	0.054	H-394	0.185	0.050	0.085	2-394	24.940	25.360	0.210	24.940	25.189	0.241	.152-.162	25.422	25.671
26.5167	26.1400	25.7233	0.188	HZ-395	0.154	0.050	0.054	H-395	0.185	0.050	0.085	2-395	25.940	26.360	0.210	25.940	26.199	0.241	.152-.162	26.422	26.681